

Wallowa County Chieftain

County Pioneer Paper

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THURSDAY, JUNE 10, 1909.

SHILLOCK TAKES CHARGE OF FISH HATCHERY

Mr. and Mrs. Max M. Shillock went to the state fish hatchery on the wallowa, two miles below Minam, Tuesday, where on July 1, Mr. Shillock will take up his duties as superintendent. Meanwhile, for the coming month, he will familiarize himself with the work.

Mr. Shillock was first appointed superintendent of the hatchery at Ontario, which was the largest in the state, but it has been found necessary to abandon it because of the immense amount of sand in the Snake river killing the young fry.

Mr. and Mrs. Shillock have resided the past year on Alder Slope. Mr. Shillock is a newspaper man and formerly connected with the Oregonian. They came to this county for his health, and have made a host of friends, who are sorry to see them leave but are glad he has secured this fine position where they can still stay in Wallowa county.

If You are Worth \$50,000 Don't Read This.

This will not interest you if you have fifty thousand dollars, but if you are a man of moderate means and cannot afford to employ a physician when you have an attack of diarrhoea, you will be pleased to know that one or two doses of Chamberlain's Colic, Cholera and Diarrhoea Remedy will cure it. This remedy has been in use for many years and is thoroughly reliable. Price 25 cents. For sale by Burnaugh & Mayfield.

NOTICE FOR PUBLICATION—UNLATERATED TRACT.

Public Land Sale, Department of the Interior, U. S. Land Office at La Grande, Oregon, May 19th, 1909.

Notice is hereby given that as directed by the Commissioner of the General Land Office, under provisions of Congress approved June 25, 1906 (34 Stat., 517), we will offer at public sale, to the highest bidder, at 10 o'clock a.m., on the 8th day of July, 1909, at this office, the following described land: S $\frac{1}{2}$ NW $\frac{1}{4}$ Section 1, and Lot 1 and SE $\frac{1}{4}$ NE $\frac{1}{4}$ Section 2, T. 18, R. 41 E. W. M. Serial No. 62121.

Any persons claiming adversely the above described land are advised to file their claims, or objections, on or before the time designated for sale. F. C. Bramwell, Register, 4055 Colon R. Eberhard, Receiver.

RESTORATION TO ENTRY OF LANDS IN NATIONAL FOREST.

Notice is hereby given that the lands described below embracing 125 acres, within the Wallowa National Forest, Oregon, will be subject to settlement and entry under the provisions of the homestead laws of the United States, and the act of June 11, 1906 (34 Stat., 223), at the United States land office at La Grande, Oregon, on July 21, 1909. Any settler who was actually and in good faith claiming any of said lands for agricultural purposes prior to January 1, 1904, and has not abandoned same, has a preference right to make a homestead entry for the lands actually occupied. Said lands were listed upon the applications of the persons mentioned below, who have a preference right subject to the prior right of any such settler, provided such settler or applicant is qualified to make homestead entry and the preference right is exercised prior to July 21, 1909, on which date the lands will be subject to settlement and entry by any qualified person. The lands embrace a tract which, when surveyed, will probably be within Sec. 1, T. 2 N., R. 50 E., W. M., bounded and described as follows: Beginning at a point 20 chains west of the northwest corner of Sec. 1, T. 2 N., R. 50 E., extending thence S. 10 chains; thence E. 10 chains; thence N. 10 chains; thence E. 10 chains to the point of beginning; and beginning at a point 20 chains west of the west $\frac{1}{4}$ corner of Sec. 1, T. 2 N., R. 50 E.; extending thence N. 10 chains; thence E. 10 chains to the point of beginning, containing 20 acres. Set on upon the application of Howard Whittier, of White Bluff, Idaho.

Also the SE $\frac{1}{4}$ of NW $\frac{1}{4}$ of NW $\frac{1}{4}$, the SE $\frac{1}{4}$ of NE $\frac{1}{4}$ of NW $\frac{1}{4}$ of NW $\frac{1}{4}$, the SE $\frac{1}{4}$ of NW $\frac{1}{4}$ of NW $\frac{1}{4}$ of NW $\frac{1}{4}$, the SW $\frac{1}{4}$ of SW $\frac{1}{4}$ of NW $\frac{1}{4}$ of NW $\frac{1}{4}$, the SW $\frac{1}{4}$ of NW $\frac{1}{4}$ of NW $\frac{1}{4}$ of NW $\frac{1}{4}$, the SW $\frac{1}{4}$ of NW $\frac{1}{4}$ of NW $\frac{1}{4}$ of NW $\frac{1}{4}$, the SE $\frac{1}{4}$ of NE $\frac{1}{4}$ of NE $\frac{1}{4}$, Sec. 14, T. 2 N., R. 50 E., 195 acres, application of R. O. Wilson, of White Bluff, Idaho. Fred Dennett, Commissioner of the General Land Office, approved May 14, 1909.

Frank Pierce, First Assistant Secretary of the Interior.

Sore Nipples.

Any mother who has had experience with this distressing ailment will be pleased to know that a cure may be effected by applying Chamberlain's Salve as soon as the child is done nursing. Wipe it off with a soft cloth before allowing the baby to nurse. Many trained nurses use this salve with best results. For sale by Burnaugh & Mayfield.

Bargains at Wheat's closing out sale.

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Watch for Next Announcement

Home Course In Modern Agriculture

XIII.—How Animals Grow

By C. V. GREGORY,

Agricultural Division, Iowa State College

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ANIMALS, unlike plants, can obtain none of their food from the soil, air or water, but must have it prepared for them. Without plants there could be no animal life, since animals are dependent upon them, either directly or indirectly, for food. A study of the way animals make use of this food in building up their bodies will help us to better understand the principles of feeding.

There are three main constituents of foods—fats, carbohydrates and albuminoids, or protein. The fats are made up of carbon, hydrogen and oxygen. The carbohydrates, of which starch and sugar are familiar examples, are

made up of the same elements put together in different proportions. Another of the carbohydrates is cellulose, or the woody fiber of plants. This is hard to digest, but some of it is used in animal growth. Albuminoids contain not only carbon, hydrogen and oxygen, but nitrogen also. In addition to these three constituents of food it also contains some mineral elements, which are commonly referred to as ash.

This ash is used in building up the bones, hair, horns and hoofs. The al-

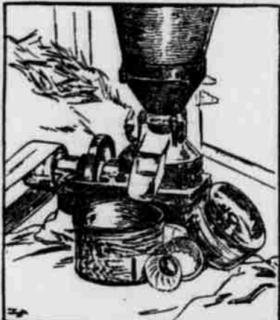


FIG. XIV.—GROUND FEED IS DIGESTED MORE QUICKLY AND COMPLETELY THAN WHOLE GRAIN.

buminoids also form a considerable portion of these parts of the body. Their chief use, however, is in building up the muscles, tissues and various organs. The fats and carbohydrates are used to furnish energy and heat. They are the fuel of the body. By uniting with oxygen they give off the heat and energy required to keep the body running, in much the same way that the elements of coal or wood unite with oxygen to furnish heat and power when burned in a steam engine. Not all of the fats and carbohydrates are burned immediately, however. Some of the fats go to build up fatty tissues. Some of the carbohydrates are changed to fats and used in the same way, and some are stored in the liver in the form of glycogen to be used when needed.

Before these various food elements can be used by the animal they must go through a process called digestion. The first step in digestion consists in taking the food into the mouth. Each class of animals has a different way of doing this. Watch the cows feeding in the pasture. They reach out their long tongues and gather in a mouthful of grass, breaking it off with a peculiar twist as it comes against their lower teeth. They cannot bite it off, since they have no upper teeth in front. The horse gathers in the grass with his lips and bites it off between his teeth. For this reason horses can eat grass down much closer to the ground than cattle can.

After the food is taken into the mouth it is chewed and mixed with saliva. This saliva serves two purposes—to moisten the food and to change some of the starch to sugar. This change is brought about by the action of enzymes which the saliva contains. These work in the same way as do the enzymes in a germinating seed, which prepare the food for the little plant.

Sugar and starch, as we have learned, are both composed of carbon, hydrogen and oxygen, the only difference being that they are put together in a little different way. The action of the enzymes changes the relation of these elements in the starch, arranging them in such a manner as to form sugar.

All the starch in the food must be changed to some form of sugar before it can be used by the animal in building up the various parts of its body. Since the food remains in the mouth only a comparatively short time, however, only a small part of the starch can be acted upon there. The rest is changed later, as we shall see. The main purpose of the saliva is to moisten the food. This moistening, together with the chewing, reduces it to a moist, finely divided mass, ready to be swallowed and acted upon by the other digestive juices.

While the essential processes of digestion are the same for all animals, the way in which the work is carried on varies somewhat. The horse and the hog have but one stomach. As the food enters this a churning motion begins, which gradually forces the partially digested mass along toward the lower end. The saliva continues to act on the starch, and another fluid, the gastric juice, is poured

out from the walls of the stomach. The main duty of this gastric juice is to change the albuminoids into a form in which they can be absorbed and used by the animal.

Cattle and sheep have a very large stomach, which is divided into four parts. Animals of this kind are called ruminants. When the food is swallowed it passes into the first stomach, which serves the purpose of a storehouse. Here the action of the saliva continues, and the water which the animal drinks softens the food to a considerable extent. After a time the food passes into the second stomach, which forces it back to the mouth, a little at a time. Here it is chewed thoroughly. You have often seen cows lying in the shade "chewing their cud." This cud is the food that has been sent up to the mouth by the second stomach.

After being chewed the food is swallowed again. This time it passes directly through the first stomach to the third. Here it becomes still further softened, finally passing into the fourth or true stomach. The function of the first three compartments is simply to prepare the food to be acted upon by the true stomach.

After leaving the stomach the partially digested food passes into the small intestines. Here it is acted upon by three fluids—the bile, pancreatic juice and intestinal juice. The chief use of the bile is to digest the fats, making them into a sort of a soapy fluid, in which form they are ready to be absorbed into the blood.

Both the pancreatic and intestinal juices act upon the remaining starch, completing the change into sugar. The pancreatic juice also completes the digestion of the albuminoids, in which work the intestinal juice may also take a small part. Another work of the pancreatic juice is to assist in decomposing the fats. The intestinal juice breaks cane sugar up into simple sugars, such as glucose.

After the food has been digested the usable portions are ready to be absorbed into the blood. Digestion has changed the fats, proteins and starches into a form in which they are soluble. In this fluid state they pass through the walls of the stomach and intestines and are emptied into the blood.

The blood is taken to all parts of the body by the arteries, which subdivide to form tiny capillaries. These are so small and close together that a pin prick on the skin anywhere will pierce some of them. There are two main parts to the blood—the fluid of plasma and the red corpuscles—which give it its color.

Each part of the body selects from the blood the food materials which it needs. Thus the bones will take ash, while the muscles will take protein, to build up their wornout parts. The waste, broken down parts are burned, together with as much fat and sugar as are needed, to furnish heat and energy. All through the body there are thousands of little fires. To keep these fires going oxygen is used, and carbon dioxide is given off in the same way that a fire in a stove takes in oxygen through the lower draft and sends carbon dioxide up the chimney.

In the body the corpuscles supply the oxygen and carry away the carbon dioxide. The other waste materials, or ashes, are gathered up by a system of vessels called lymphatics, which empty into the veins. These veins carry the blood back to the heart. The change of the contents of the corpuscles from oxygen to carbon dioxide changes the color of the blood from a bright red to a much darker shade.

From the right side of the heart, to which the blood is brought by the



FIG. XXVI.—SUPPER TIME.

veins, it is sent to the lungs, where the corpuscles exchange their carbon dioxide for oxygen and are ready for another trip through the body.

Since oxygen plays such an important part in keeping up the fires that supply the body with heat and energy, it is just as important that the animals be well supplied with fresh air as it is that they have enough food. In the winter especially the stables are often closed so tightly in the attempt to keep them warm that the air becomes very deficient in oxygen. In consequence the work of the body is delayed and the general health suffers. By having ventilators in the roof, together with plenty of windows at such a height that the draft will not blow directly upon the animals, fresh air can be admitted and impure air drawn off constantly.

NOTICE FOR PUBLICATION.

Department of the Interior, United States Land Office at La Grande, Oregon, May 3, 1909.

Notice is hereby given that John F. McCoy, of Innaha, Oregon, who, on May 8, 1902, made Homestead Entry No. 11369-Serial No. 63639, for Lot 2, SE $\frac{1}{4}$ NW $\frac{1}{4}$, and S $\frac{1}{2}$ NE $\frac{1}{4}$, Section 19, Township 2 North, Range 48 East, Willamette Meridian, has filed notice of intention to make Final five year Proof, to establish claim to the land above described, before D. W. Sheahan, U. S. Commissioner, at Enterprise, Oregon, on the 21st day of June, 1909.

Claimant names as witnesses: Gilbert H. Vest of Enterprise, Oregon; Jonathan Haas, of Enterprise, Oregon; Luther Stumbaugh of Innaha, Oregon; Jasper N. Stubblefield, of Innaha, Oregon. F. C. Bramwell, Register.

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